

**DETAILED ACTION**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with A. Blair Hughes on September 7, 2010.

The application has been amended as follows:

16. (Currently amended) A non-transitory computer-readable medium embodying instructions for execution by computer apparatus, the instructions relating to separation of a plurality of source signals from a composite signal expressed as a series of values of signal amplitude, the source signals having periodicities similar or equal to  $p$ , and the computer-readable medium incorporating program code for controlling computer apparatus to:

- (a) express the composite signal as a matrix  $[[X]]$  having rows each of which is a respective segment of signal amplitude values and corresponds to a length of time associated with a signal cyclet;
- (b) decompose the matrix  $[[X]]$  by decorrelation and normalisation to obtain decomposition results; and
- (c) perform ICA of the decomposition results to obtain at least one of estimated separated signal modulation envelopes and estimated separated signal cyclets.

17. (Currently amended) A non-transitory computer-readable medium embodying instructions for execution by computer apparatus, the instructions relating to separation of a plurality of source signals from a composite signal expressed as a series of values of signal amplitude, the source signals having periodicities similar or equal to  $p$ , the computer-readable medium incorporating program code for controlling computer apparatus to:

- (a) partition the composite signal into sections to provide respective rows of a partition matrix  $[[X]]$ ;
- (b) perform a singular value decomposition of the matrix  $[[X]]$  to obtain two singular vector matrices  $[[U, V]]$  and a singular value matrix  $[[\Lambda]]$ ; and
- (c) perform an independent component analysis of one of the singular vector matrices  $[[U, V]]$  to obtain a rotation matrix and using the rotation matrix to calculate an independent component matrix and an associated component matrix, one matrix containing estimated separated signal modulation envelopes and the other matrix containing estimated separated cycles.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DADY CHERY whose telephone number is (571)270-1207. The examiner can normally be reached on Monday - Thursday 8 am - 4 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Huy D. VU can be reached on 571-272-3155. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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